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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/840,892	04/17/97	KIM B	P54514

LM02/0106

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EXAMINER	
BLACKMAN, A	

ART UNIT	PAPER NUMBER
2774	5

DATE MAILED: 01/06/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 08/840,892	Applicant(s) Byoung-Han Kim
	Examiner Anthony Blackman	Group Art Unit 2774

☒ Responsive to communication(s) filed on *Apr 17, 1997*.

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *three* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *1-10* is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1-10* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☒ The drawing(s) filed on *Apr 17, 1997* is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☐ The specification is objected to by the Examiner.

☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☒ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

Oath/Declaration

1. It appears that at least one full given name of applicant Byoung-Han Kim is not present either in the signature or elsewhere in the papers. This application will not be passed to issue until the omitted name has been supplied or unless a statement has been supplied over the applicant's signature setting forth that the name as signed is the actual full name of applicant Byoung-Han Kim. See MPEP § 605.04.

Drawings

2. Applicant is required to submit a proposed drawing correction in reply to this Office action. However, formal correction of the noted defect can be deferred until the application is allowed by the examiner. Please refer to PTO FORM 948.

Claim Objections

3. Claims 2, 3, 4, and 9 are objected to because of the following informalities: in claim 2, line 1, the term "light" should be "--liquid--"; in claim 3, line 1, the term "light" should be "--liquid--"; and in claim 3, line 8, the term "mories" should be "--memories--"; in claim 9, line 1, the term converter should be "--converter that converts--", or something to that effect.

Claim Rejections - 35 U.S.C. § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 5 is rejected under 35 U.S.C. 102(b) as being anticipated by Eiffel et al.

Consider claim 5. Eiffel et al teach analog luminance signal to parallel conversion(column 68; lines 66-68, means for detecting high or low signals(column 12; lines 64-68, and column 13; lines 1-8), means for color difference signals(comparing signals - column 12; lines 68, and column 13; lines 1-8), and means for converting color difference signals(converting resolution signals - column 12; lines 68, and column 13; lines 1-8).

6. Claim 6 is rejected under 35 U.S.C. 102(b) as being anticipated by Lumelsky et al(U.S. Patent No. 5,283,561).

Consider claim 6. Lumelsky et al teach horizontal and vertical sync signals(column 12; lines 13-27), video signal of serial format means synchronized with horizontal synchronization signal(sampling clock signal and the horizontal signal from the shift register 180 (column 14; lines 31-42), plurality of pixel display(high resolution graphics display, column 11; lines 22-25, and column 20; lines 57-64), means for detecting the pixel number (television decoder and FIFO device, Figure 4(110) and Figure 5(122), column 11; lines 14-18, 39-48, and 49-66), means for

comparing the pixel number(television decoder and FIFO DEVICE, Figure 4(110) and Figure 5(122), column 11; lines 14-18, 22-25, 39-48, 49-66, column 21; lines 9-33), means for sampling(column 11; lines 66-68, column 12; lines 1-22, column 13; lines 62-68, and column 14; lines 1-8), means for displaying sampled video signal (column 11; lines 15-26, and column 15; lines 35-51).

7. Claim 10 is rejected under 35 U.S.C. 102(b) as being anticipated by Eiffel et al(U.S. Patent No. 4,564,484).

Consider claim 10. Eiffel et al teach video signal converting (column 11; lines 36-38, and column 12; lines 4-14), memory for storing said video signal(random access memory, column 12; lines 15-24), horizontal output generator(output of the horizontal line samples, column 11; lines 48-62), memory controller(converter, Figure 11(174), column 12; lines 1-7).

Claim Rejections - 35 U.S.C. § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis(U.S. Patent No. 4,851,826) in view of Eiffel et al(U.S. Patent No. 4,654,484).

Consider claim 1. Davis teaches "a system for generating high resolution video display frames from low resolution computer video output frames comprises means for storing a plurality of low horizontal and vertical resolution computer video output frames"(column 3; lines 31-36), Horizontal synch and Vertical sync signals, Red, Green , Blue, and Intensity signals(column 3; lines 36-39), 28 MHZ Clock(Figure 4 (102) and Input Sync(Figure 4(104), column 4; lines 64-68 and column 5; lines 1-20))) sync signal means, output timing circuit means(horizontal output generator, column 15; lines 47-63), control latch means(flag generator and memory selector operation, column 9; lines 5-68, and column 10; lines 1-66), and input classifier(memory operation control circuit, Figure 4(116), column 5; lines 55-68 and column 6; lines 1-2, and column 8; lines 27-30), however, Davis does not disclose analog to digital conversion means, analog to digital conversion device, random access memory with luminance signals, nor memory controlling means for analog to digital conversion. Conversely, Eiffel et al teach an analog to digital converter(ADC) (Figure 11(168), column 11; lines 40 -68 and column 12; lines 1-14), random access memory with luminance access signals(Figure 10(14), column 11; lines 48-68, and column 12; lines 1-14, column 12; lines 10-14), and raster scanner(memory control, Figure 1(10), column 4; lines 68 and column 5; lines 1-18). It would have been obvious to one skilled in the art at the time of the invention to combine Davis' "Computer Video Multiplexer" with Eiffel et al's analog to digital conversion means because each invention share similar environments allows for greater retention of "...less informative bits of data...column 2; lines 9 and 10)", which results in better resolution and a more complete picture. Furthermore, it would have been obvious for Davis

and Eiffel et al to include the operations of memory, horizontal output generator, and memory control in a single chip because this would simplify repair of the electronic device.

10. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lumelsky et al(U.S. Patent No. 5,283,561) in view of Davis(U.S. Patent No. 4,851,826) and Eiffel et al(U.S. Patent No. 4,654,484).

Consider claims 7-9. Lumelsky et al teach horizontal and vertical sync signals(column 12; lines 13-27), video signal of serial format means synchronized with horizontal synchronization signal(sampling clock signal and the horizontal signal from the shift register 180 (column 14; lines 31-42), plurality of pixel display(high resolution graphics display, column 11; lines 22-25, and column 20; lines 57-64), means for detecting the pixel number (television decoder and FIFO DEVICE, Figure 4(110) and Figure 5(122), column 11; lines 14-18, 39-48, and 49-66), means for comparing the pixel number(television decoder and FIFO DEVICE, Figure 4(110) and Figure 5(122), column 11; lines 14-18, 22-25, 39-48, 49-66, column 21; lines 9-33), means for sampling(column 11; lines 66-68, column 12; lines 1-22, column 13; lines 62-68, and column 14; lines 1-8), means for displaying sampled video signal (column 11; lines 15-26, and column 15; lines 35-51), however does not teach first clock generator means, ...horizontal line being equal to a value of said first data signal, serial to parallel converter, a second clock, horizontal output generator, converter means of sampled video signal. Davis(U.S. Patent No. 4,851,826) teaches a first clock generator means(column 5; lines 5-20, and column 16; lines 25-33), ...horizontal line being equal to a value of said first data signal(column 5; lines 37-48), a second clock(column 16;

lines 45-51), ... horizontal line being equal to a value of said first data signal(column 5; lines 37-48 and column 18; lines 13-20), horizontal output generator(address generator, Figure 4(118), column 10; lines 67-68, and column 11; lines 1-18), and converter means of sampled video signal (column 11; lines 63-68, and column 12; lines 1-14). Therefore, it would have been obvious to one skilled in the art at the time of the invention to combine the electronic device of Lumelsky et al with Davis' first clock generator means, and ...horizontal line being equal to a value of said first data signal because both inventions work in similar environments and will "...provide a system and method for generating high horizontal and vertical resolution video frame data..."(Davis, column 2; lines 12-13). Furthermore, Eiffel et al(U.S. Patent No. 4,564,484) teach serial to parallel converter(Figure 11(188), column 12; lines 42-47). It would have been obvious to one skilled in the art at the time of the invention to combine the device of Lumelsky et al and Davis with Eiffel et al's serial to parallel converter device, because of the reduction in bit transmission time(Eiffel et al, column 1; lines 62-63), and also enhances the general low resolution video image.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Suzuki et al(U.S. Patent No. 5,696,531) teach high and low resolution image display, but does not disclose analog to digital means. Garrett(U.S. Patent No. 5,245,328) teaches pixel clock with low resolution generator, however , does not teach serial to parallel means , nor analog

to digital means. Tutt et al(U.S. Patent No. 5,051,929) teach serial to parallel means, but does not teach pixel clock circuitry. Shiki(U.S. Patent No. 5,406, 308) teach horizontal and vertical synchronization, and analog to digital conversion, however, does not disclose serial to parallel conversion.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Blackman whose telephone number is (703) 305-0833. The examiner can normally be reached on Monday through Thursday from 8 a.m. to 4 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on (703) 305-4709.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

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or faxed to:

(703) 308-6606, (for formal communications intended for entry)

Or:

(703) 305-9731 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Anthony J. Blackman

December 14, 1998

RICHARD A. HJERPE
SUPERVISORY PATENT EXAMINER
GROUP 2700